

IN THE CLAIMS

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1. (Currently Amended) A catalyst for the full oxidation of volatile organic compounds (VOC) and of CO to CO₂, comprising :

5% to 20% by weight of a non-stoichiometric crystalline compound conventionally designated by a formula which corresponds to A₁₄CU₂₄O₄₁ (I), where A is Sr or a solid solution of Sr with alkaline-earth metals, alkaline metals or lanthanides; or a non-stoichiometric crystalline compound conventionally designated by a formula which corresponds to B₄CU₅O₁₀ (II), where B is Ca or a solid solution of Ca with alkaline-earth metals, alkaline metals or lanthanides; or mixtures thereof; that is prepared in a form which has a large specific surface area, preferably larger than 25 m²/g.

2. (Cancel)

3. (Cancel)

4. (Cancel)

5. (Cancel)

6. (Cancel)

7. (Cancel)

8. (Cancel)

9. (Canceled)

10. (Canceled)

11. (Previously Presented) A method for preparing a catalyst comprising a nonstoichiometric crystalline compound conventionally designated by a formula which corresponds to Sr₁₄Cu₂₄O₄₁ comprising the steps of:

a) immersing a pre-dried granular porous substrate material in an aqueous solution with a molar concentration of Sr(NO₃)₂ from 0.23 M to 0.93 M and a molar concentration of Cu(NO₃)₂ from 0.39 M to 1.59 M;

b) drying the product of step a) at a temperature from 80°C to 120°C; and

c) holding the product of step b) at a temperature from 650°C to 750°C in a gas stream which contains oxygen until complete decomposition of the nitrates occurs.

12. (Previously Presented) A method for preparing a catalyst comprising a nonstoichiometric crystalline compound conventionally designated by a formula

which corresponds to $\text{Ca}_4\text{Cu}_5\text{O}_{10}$ comprising the steps of:

a) immersing a pre-dried granular porous substrate material in an aqueous solution of $\text{Ca}(\text{NO}_3)_2$ and $\text{Cu}(\text{NO}_3)_2$ in an equimolar ratio and at a molar concentration from 0.39 M to 1.39 M;

drying the product of step a) at a temperature from 80°C to 120°C; and

b) holding the product of step b) at a temperature from 650°C to 750°C in a gas stream which contains oxygen until complete decomposition of the nitrates occurs.

13. (Presently Presented) A method for preparing a catalyst comprising a non-stoichiometric crystalline compound conventionally designated by a formula which corresponds to $\text{Ca}_4\text{Cu}_5\text{O}_{10}$, comprising the steps of:

a) immersing a pre-dried granular porous substrate material in an aqueous solution obtained by dissolving, with the application of heat, CuO and CaCO_3 in nitric acid, so that the molar ratio between the components of the solution is $\text{CuO} : \text{CaCO}_3 : \text{HNO}_3 = 1 : 0.83 : 3.2$; water and citric acid being added thereto so that the citric acid : Cu molar ratio is from 3.5:1 to 4.0:1;

b) heating the product of step a) in air until combustion of the organic fraction of the absorbed material is achieved; and

c) thermal treating the product of step b) for 4 to 24 hours at a temperature from 650 to 750°C in a stream of gas containing oxygen.

14. (Previously Presented) The method according to claim 11, wherein the porous material is selected from the group consisting of Al_2O_3 , ZrO_2 , CeO_2 , TiO_2 , and MgO .